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John C. Freeman

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Registered Representative

John C. Freeman
Signature

Date of Signature

Reissue Patent

Case No. 8371/9

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application for Reissue
of U.S. Patent No. 5,981,940

Issued: November 9, 1999

Patentee: Robert Setbacken et al.

U.S. Reissue Patent Application
Serial No.: 10/039,336

Filed: October 29, 2001

For: ANGLE MEASURING SYSTEM
WITH A CLAMPABLE SHAFT

Examiner: Le, Que Tan

Art Unit: 2878

APPEAL BRIEF

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

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Dear Sir:

This Appeal is in response to the Final Office Action mailed October 14, 2003¹.

¹ Appellants filed a Notice of Appeal on September 18, 2003 in response to the Final Office Action dated March 19,

I. REAL PARTY IN INTEREST

Renco Encoders, Inc. is a real party of interest in this Appeal pursuant to an assignment of the above-identified application to Renco Encoders, Inc. by the inventors. Dr. Johannes Heidenhain GmbH of Traunreut, Germany is also a real party of interest since Renco Encoders, Inc. is a subsidiary of Dr. Johannes Heidenhain GmbH.

II. RELATED APPEALS AND INTERFERENCES

The undersigned, John C. Freeman, is not aware of any other appeals or interferences that would directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

III. STATUS OF CLAIMS

The status of the claims is as follows:

Claims 1-38 are currently pending.

Claims 19 and 25-29 are rejected under 35 U.S.C. § 112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had

2003. On October 14, 2003, a second Final Office Action was mailed that withdrew the finality of the March 19, 2003 Office Action. The Examiner withdrew this Final Office Action due to missing claims 25-29 on October 14, 2003. On the same date, the Examiner issued another Final Office Action. Accordingly, Appellants are filing a Second Notice of Appeal concurrently with the filing of the present Appeal Brief. Since a Petition for a One Month Extension of Time is being filed concurrently with the present Appeal Brief, the present Notice of Appeal and Appeal Brief are timely filed.

possession of the claimed invention.

Claims 19 and 25-29 are rejected under 35 U.S.C. § 251 as being based upon new matter added to the patent for which reissue is sought.

Claims 1-18, 20-24 and 30-38 have not been rejected and are considered allowed.²

The rejections of claims 19 and 25-29 under 35 U.S.C. §§112 and 251 are the subject of this Appeal.

IV. STATUS OF AMENDMENTS

An Amendment to the claims was filed on February 18, 2003 in response to the Non-Final Office Action of October 16, 2002. A Final Office Action was mailed on March 19, 2003 and a response was filed on August 19, 2003. An Advisory Action was mailed on September 5, 2003. Appellants filed a Notice of Appeal regarding the Final Office Action on September 18, 2003. The Examiner withdrew the March 19, 2003 Final Office Action and the Advisory Action on October 14, 2003 and simultaneously, issued another Final Office Action. Appellants have not filed any Amendment in response to the October 14, 2003 Final Office Action.

V. SUMMARY OF INVENTION

An understanding of the present invention can be made upon a review of the embodiment of the invention shown in FIGS. 1-3 of the specification. FIG. 1 shows an embodiment of the angle measuring system. The angle measuring system includes a stator 1 and a stationary

² It is noted that the Office Action summary mailed on October 14, 2003 indicates that claims 1-18, 20-24 and 30-38 are rejected while the text of the October 14, 2003 Office Action only contains rejections for claims 19 and 25-29.

element 6 of a drive unit (column 2, lines 15-17). The stator 1 is fastened by coupling 5 to the stationary element 6 (column 2, lines 28-29). Within the stator 1, a pick-up shaft 2, a coding disk 3 and a scanning unit 4 are located. The coding disk 3 is fastened to a first end of the pick-up shaft 2 and scanned by the scanning unit 4 (column 2, lines 21- 27).

The pick-up shaft 2 is preferably continuously hollow and rotatably seated in the stator 1 (column 2, lines 18-19). A second end of the pick-up shaft 2 is opposite to the first end where the coding disk 3 is coupled (column 2, lines 48-49). At the second end, the pick-up shaft has axially extending slits 7 and an interior thread 8 (column 2, lines 49-50). The pick-up shaft 2 is connected with a driveshaft 9 located in the stationary element 6 (column 2, lines 52-49). The driveshaft 9 has a bore 10. If the pick-up shaft 2 is connected with the driveshaft 9, the slitted area of the pick-up shaft 2 is pushed into the bore 10 of the driveshaft 9 and spreads open radially (column 2, lines 51-56). This achieves a rigid radial clamping (column 2, line 56).

The clamping device 100 clamps the pick-up shaft 2, fixed against relative rotation, to the driveshaft 9 (column 1, lines 8-10; *see* Amendment filed February 18, 2003). A clamping area 102 is formed near the second end of the pick-up shaft 2 where the slits 7 and the interior thread 8 are located (column 1, lines 52-54; *see* Amendment filed February 18, 2003). A portion of the second end/clamping device 100 defines the clamping area 102. A clamping element 104 has the slits 7 and the interior thread 8.

A screw 11 is used to spread the slitted area of the pick-up shaft 2 open (column 2, lines 56-58). The screw 11 has an exterior thread 12 on one end and a head 13 on an opposite end (column 2, lines 58-59). Starting at the first end of the pick-up shaft 2, the screw 11 is turned

into the hollow pick-up shaft 2 until the screw's radially extending surface 14 is supported at a shoulder having a radially extending surface 15 of the pick-up shaft 2 (column 2, lines 59-63). The surfaces 14 and 15 form an axially effective detent up to which the screw 11 can be turned into the pick-up shaft 2 (column 2, lines 63-65). The exterior thread 12 of the screw 11 is inserted into an opening 106 that is formed, at least in part by the clamping element 104 (*See* Amendment filed February 18, 2003).

If, after reaching the shoulder of the pick-up shaft 2, the screw 11 is further turned with relation to the pick-up shaft 2, the thread flanks of the exterior threads 12 of the screw 11 and the interior threads 8 of the pick-up shaft 2 cause the slit end of the pick-up shaft 2 to spread open (column 2, line 66 – column 3, line 3).

FIGS. 2-3 illustrate the principle operation of the clamping device 100 according to a preferred embodiment of the present invention (column 3, lines 22-25). If the screw 11 has been turned into the pick-up shaft 2 up to the detent 14, 15, the surface 14 of the screw head 13 is pressed against the surface 15 of the pick-up shaft 2 (column 3, lines 25-29). With further turning of the screw 11, a longitudinal force of tension F_1 appears at the thread flanks 12 of the screw 11 (column 3, lines 29-31). The thread flanks 12 are inclined at an angle θ to the force F_1 (column 3, line 31-32). This results in components of the force F_1 being developed both normal and parallel to the contact surface 17 defined by the exterior threads 12 of the screw 11 and interior threads 8 of the pick-up shaft 2 (column 3, lines 33-36).

The force F_1 has component $F_1 \sin \theta$, normal to the surface 17, and $F_1 \cos \theta$, parallel to the surface 17 (column 3, lines 37-38). The force $F_1 \cos \theta$ has component $F_2 = F_1 \cos \theta \sin \theta$

which is at right angles to F1 (column 3, lines 39-40). The force F2 created by the longitudinal force on screw 11 has an equal and opposite force F2' by the resistance of the pick-up shaft threads (column 3, lines 40-43). These two forces attempt to force the slitted portion of the pick-up shaft 2 away from the screw but this motion is constrained by the surface of the bore 10 in driveshaft 9 (column 3, lines 43-45). Based on the above structure, the present invention can achieve the angle measuring system with a clampable shaft with relatively fewer elements. The present invention can also provide the angle measuring system that is simple to implement (column 1, lines 43-45).

VI. ISSUES

There are three issues presented for review:

The first issue is whether claims 19 and 25-29 are described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention in violation of 35 U.S.C. § 112, first paragraph.

The second issue is whether the rejections to claims 19 and 25-29 are proper as being based upon new matter added to the patent for which reissue is sought under 35 U.S.C. § 251.

The third issue is whether the amendment to the specification filed on February 18, 2003 introduces new matter into the disclosure of the application in violation of 35 U.S.C. § 132.

VII. GROUPING OF CLAIMS

The patentability of claims 19 and 25-29 stands or falls together.

VIII. ARGUMENT

(i) Rejection under 35 U.S.C. § 112, First Paragraph

The Final Office Action of October 14, 2003 (hereinafter “the Final Office Action”) finally rejected claims 19 and 25-29 under 35 U.S.C. § 112, first paragraph as containing the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In particular, the Final Office Action asserted that proper support for claim 19’s limitation “an opening in which said actuating element is inserted, wherein movement of said actuating element with respect to said slit causes said slit to radially spread open so that said pick-up shaft and a drive shaft engage one another so as to be fixed against relative rotation,” could not be found in the specification. Appellants respectfully traverse this rejection.

First, Appellants submit that the original specification and drawings support the limitations of claim 19 in question. “While there is no *in haec verba* requirement,” the written description requirement under 35 U.S.C. § 112, first paragraph requires that “newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure.” MPEP § 2163 at 2100-162. In establishing such disclosure, Applicant may rely on the specification and drawing as filed. MPEP §608.04.

The specification and FIG. 1 of Appellants’ original application describe a specific

embodiment of the present invention. In the embodiment, a screw 11 is turned into hollow pick-up shaft 2. The specification describes a two step process where 1) the screw 11 initially is inserted into pick-up shaft 2 and moved downward until its exterior threads 12 are positioned adjacent to the interior threads 8 of pick-up shaft 12 (see FIG. 1; column 2, lines 59-65) and 2) when adjacent to the interior threads 8, movement of the screw 11 (for example, turning) with respect to a slit causes the slit to radially spread open (column 2, line 66 – column 3, line 3). Appellants submit that this specific embodiment of the original disclosure is sufficient to support the limitation of claim 19. Furthermore, the original description is sufficient to show one of ordinary skill in the art that the invention of claim 19 was “ready for patenting” and so was in possession of the Appellants. MPEP § 2163 I.

It is well known that a claim may be broader than the specific embodiment disclosed in the specification. *See In re Rasmussen*, 650 F.2d 1212, 1215 (CCPA 1981). In particular, “the statutory provision for broadened claims in reissue applications is intended to meet precisely the situation in which a patentee has claimed “less” than he had a right to claim.” *Id.* Courts have held that the original disclosure may support the claims that are broader than the specific embodiments of the specification. *In re Smythe*, 480 F.2d 1376, 1382 (CCPA 1973); *Rasmussen*, 650 F.2d 1212; *In re Peters*, 723 F.2d 891, 893-94 (Fed. Cir. 1983). In those cases, courts have made the same inquiry as other cases, “whether the specification conveys with reasonably clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed,” MPEP § 2163; *Smythe*, 480 F.2d at 1382, and have found fulfillment of the description requirement.

Specifically, the CCPA has previously held that “disclosure of a single method of adheringly applying one layer to another was sufficient to support a generic claim to “adheringly applying” because one skilled in the art reading the specification would understand that it is unimportant how the layers are adhered, so long as they are adhered.” MPEP § 2163.05 at 2100-174 (citing *Rasmussen*, 650 F.2d at 1215). Where the reissue claims were broadened to encompass differing tip shapes of a metal tip used for a display device by removing the limitation on tapered tip, the Federal Circuit has held that the broadened claims were supported by the original disclosure, because each tip shape did not have to be disclosed and described in the original disclosure. *Peters*, 723 F.2d at 893-94. The CCPA found that the reissue claims were supported by the original disclosure, where the term, ‘fluid’ of the reissue claims encompassed liquids and yet there was no description of ‘liquids’ in the disclosure. *Smythe*, 480 F.2d at 1382-84. The CCPA reasoned that the disclosure describing the use of air or other gas as a segmentizing medium to separate the liquid samples clearly conveyed to one skilled in the art that in this invention the characteristics of a fluid are what make the segmentizing medium work. *Id.*; see also MPEP § 2163.05 at 2100-175.

Appellants submit that the disclosure describing insertion and turning of the screw is sufficient to support the limitation of claim 19. The present invention of claim 19 is intended to resolve the problems of the prior art that additional elements (e.g. pin, wedge) in addition to actuating element are required to cause the slits of the shaft radially open (column 1, lines 43-45). The present invention of claim 19 requires an actuating element, such as a screw, because movement of the actuating element causes the slits to radially open.

As mentioned previously, claim 19 defines that the actuating element is inserted into an opening and that movement of the actuating element with respect to the slit causes the slit to radially spread open. The specific embodiment of the disclosure is that the screw 11 is turned into the hollow pick-up shaft 2 until the screw's radially extending surface 14 is supported at a shoulder having a radially extending surface 15 of the pick-up shaft 2. Then, further turning of the screw 11 causes a slit end of the pick-up shaft 2 to spread open. Compared to the specific embodiment, claim 19 defines "actuating element" as opposed to "screw" and "movement" as opposed to "turning." One of skill would understand that claim 19 defines a generic aspect of the present invention.

Appellants' disclosure describing the specific embodiment clearly conveys to one of skill that Appellants possessed the limitation of claim 19. The original disclosure does not have to describe every possible movement of the actuating element. *See Rasmussen*, 650 F.2d at 1214; *Peters*, 723 F.2d at 893. The disclosure describing turning of the screw in the specific embodiment clearly conveys to one skilled in the art that the present invention requires only the screw to cause the slit to spread open by using the movement of the screw with respect to the slits. *See Smythe*, 480 F.2d at 1382-84. A person of the ordinary skill would readily understand that claim 19 is a generic claim reciting the same subject matter and that the embodiment of using the screw for spreading in the specification is sufficient to support such a generic claim. *See Rasmussen*, 650 F.2d at 1215.; MPEP § 2163.05 at 2100-174.

There is further evidence that Appellants possessed the invention claimed in claim 19. In establishing the disclosure, applicant may rely on the original claims if their content justifies it.

MPEP § 608.04. Claim 1 as granted in U.S. Patent No. 5,981,940 was not amended and one of the original claims filed. Claim 1 as granted and as pending in the present application recites “a screw . . . which can be turned in the pick-up shaft.” Claim 1 has been deemed to be in possession of Appellants since it has not been rejected based on Section 112, first paragraph. Furthermore, citing *In re Wertheim*, 541 F.2d 257 (CCPA 1976), MPEP § 2163 I.A. states that “[t]here is a strong presumption that an adequate written description of the claimed invention is present when the application is filed.” Accordingly, Appellants originally possessed the invention of “a screw . . . which can be turned in the pick-up shaft.” One of ordinary skill would understand that such screw rotation inherently results in movement of the screw along a particular direction relative to the pick-up shaft.

Furthermore, since claim 1 recites that the screw is in the pick-up shaft, one of ordinary skill would understand that the movement of the screw will result in insertion of the screw within the pick-up shaft. One of ordinary skill would understand from claim 1 that the recited screw is an actuating element since claim 1 explicitly recites “a screw being the actuating element.” Thus, one of ordinary skill would understand that Appellants also possessed a variation of the invention of claim 1 where a screw moves and is inserted into the pick-up shaft. It follows that if Appellants possessed the invention of a screw that moves and is inserted into a pick-up shaft as recited in Claim 1, then they must also possess the invention of claim 19 that recites an actuating element that is inserted into an opening and its relative movement causes a slit to radially spread open. Since Appellants possessed the invention of claim 19, as evidenced by original claim 1, the rejection is improper and should be withdrawn.

Further evidence that Appellants possessed the invention of claim 19 is found in the final paragraph of Appellants' disclosure which states:

It is understood that the form of the invention described herewith are to be taken as preferred embodiments and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the claims.

This paragraph shows that Appellants possessed inventions that were not limited to the embodiments disclosed in the specification. *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1345 (Fed. Cir. 2001).

Finally, Appellants respectfully submit that the Final Office Action misinterprets claim 19. It, without any basis, adds the term, "merely" or "simply" to claim 19 and then asserts that the limitation, "a mere or simple inserting of the actuating element into the opening causes the slit to radially spread open" is not supported by the claim. Appellants submit that claim 19 does not recite that the "mere or simple" insertion will cause the slit to radially spread open. Rather, claim 19 specifically recites "an opening in which said actuating element is inserted, wherein movement of said actuating element with respect to said slit causes said slit to radially spread open so that said pick-up shaft and a drive shaft engage one another so as to be fixed against relative rotation." Thus, it is improper that the Final Office Action interprets claim 19 in such way to incorporate the term which does not exist in claim 19 and unduly restrict the scope of the claim 19 and makes a rejection based on such interpretation.

Perhaps the recitation of "a mere or simple inserting" in the Final Office Action (hereinafter "the recitation") is based on Appellants' statement in their Response of August 19,

2003 that claim 19 can be construed to cover a situation where mere insertion of an actuating element causes a slit to radially spread open. Such an interpretation is acceptable since Appellants possessed such an invention. Appellants assume that the recitation regards a situation wherein an actuating element of some sort is inserted into shaft 2 and moved downward past the slits of the shaft 2, wherein the downward movement of the actuating element would cause the slits to radially open. In other words, the recitation regards the situation wherein a single type of motion of the actuating element solely causes the slits to radially open. Claim 19 does not limit the types of motion during the initial insertion and when the actuating element is positioned such that relative movement of the actuating element and slit causes the slit to radially open. Claim 19 describes a motion for insertion and a motion for causing the slit to radially open. There is no language in claim 19 that limits the insertion motion and the motion for causing the slit to radially open to be different. Indeed, the embodiment of FIG. 1, involves moving screw 12 downward into shaft 2 until screw 12 engages threads 8. At this point, rotation of screw 12 causes slits to radially open and the screw 12 to move downward relative to the distal ends of the slit. Thus, downward-type movement of screw 12 of some type occurs during insertion and engagement with threads 8. So, Appellants possess the invention such that it covers “mere insertion” as well.

Based on the above, the rejection of claims 19 and 25-29 under 35 U.S.C. § 112, first paragraph is improper and should be withdrawn.

(v) Other Rejection and Objections

(a) Rejection under 35 U.S.C. § 251

Claims 19 and 25-29 are rejected under 35 U.S.C. § 251 as being based upon new matter added to the patent for which the reissue is sought. The Final Office Action asserts that “an actuating element which simply is inserted into an opening of a clamping element having a slit in which the inserting movement of the actuating element causes the slit to radially spread open” is considered new matter. Appellants submit that as discussed in the above section VIII. (i), the terms “simply or merely” do not constitute a part of claim 19 and are improperly incorporated by the Final Office Action into claim 19. Further, Claim 19 does not recite that the inserting movement of the actuating element causes the slits to radially spread open but rather recites that “movement of said actuating element with respect to said slit causes said slit to radially spread open.” Appellants respectfully submit that the rejections to claims 19 and 25-29 are premised upon the misinterpretation of claim 19.

Appellants submit that claim 19 does not introduce new matter. In the specific embodiment of the present invention, the screw is turned into the hollow pick-up shaft 2 and further turning of the screw causes slits to spread open. However, claim 19 may be broader than the specific embodiment. *Rasmussen*, 650 F.2d at 1215. In our case, claim 19 recites a generic process of the present invention wherein the actuating element is inserted into the opening and movement of the actuating element with respect to the slit causes the slit to radially spread open. Since Appellants have support for a generic process, claim 19 does not constitute new matter.

(b) Objection to the Specification under 35 U.S.C. § 132

Appellants' Amendment to the specification filed on February 18, 2003 is objected to under 35 U.S.C. § 132 because it introduced new matter into disclosure.³ Appellants' Amendment added to the specification the following description at column 2, lines 65, "As shown in Fig. 1, the exterior thread 12 is inserted into an opening 106 that is formed, at least in part by the clamping element 104." The Final Office Action asserted that this added description was not supported by the original disclosure and contained new matter because nowhere in the original disclosure described a simple insertion operation or movement of an actuating element into an opening. The Final Office Action further asserted that the disclosure of the present invention only disclosed that the clamping operation/performance was achieved by the relative turning movement between the screw 11 with an exterior thread and the clamping device with the interior thread. In sum, the Final Office Action asserted that "insertion" of a portion of the screw into the opening, as opposed to "turning" of the screw, amounted to new matter. Appellants respectfully traverse this objection as follows.

It is well settled that "amendments to an application which are supported in the original description are not new matter." *See* MPEP § 2163.07 at 2100-177. Appellants submit that the

³ It is unclear from the Manual of Patent Examining Procedure (MPEP) that the objection under 35 U.S.C. § 132 has been properly made. The MPEP § 608.04 at 600-107 indicates that when new matter is introduced into the specification, the amendment should be objected to under § 132 for a non-reissue application and under § 251 for a reissue application. On the other hand, the MPEP § 1411.04 at 1400-12 indicates that "[i]f new matter is added to the specification and does not affect the claims, an objection should be made based upon 35 U.S.C. § 132...." Meanwhile, the examiner's objection of new matter may be petitionable or appealable. MPEP § 608.04. The MPEP § 608.04(c) at 600-108 describes when the new matter objection is petitionable or appealable. It is normally petitionable but it becomes appealable when the alleged new matter is introduced into or affects the claim. MPEP § 608.04 at 600-108. In this case, since it is unclear that the § 132 objection has been properly made and is petitionable or appealable according to relevant sections of MPEP, Appellants include the § 132 objection in the present Appeal Brief out of an abundance of caution.

added description is supported in the original disclosure.

First, the original specification inherently supports the added description. The original specification describes (at column 2, lines 59-65) that “the screw 11 is turned into the hollow pick-up shaft 2 until the screw’s radially extending surface 14 is supported at a shoulder having a radially extending surface 15 of the pick-up shaft 2.” This description means that surface 14 is originally above surface 15 and turning of the screw 11 causes the surface 14 to move downward until it is supported on surface 15. One of ordinary skill would also understand that during the above described downward movement of the surface 14, the exterior thread 12 of the screw 11 would move downward within the space defined by the interior thread 8. In other words, the lower end of the screw 11 is introduced into portions of the space defined by the interior thread 8 during turning. Since the lower end is introduced into the space, it is by definition “inserted” into the space.⁴ Thus, the insertion of the portion of the screw into the opening is inherently supported by the original disclosure.

Second, FIG. 1 supports the insertion of the portion of the screw into an opening. The Court of Customs and Patent Appeal (“CCPA”), a predecessor of the Federal Circuit held that “whatever [drawing] does disclose may be added to the specification in words without violation of the statute and rule which prohibit “new matter,” 35 U.S.C. 132, Rule 118, for the simple reason that what is originally disclosed cannot be “new matter” within the meaning of this law.” *In re Wolfensperger*, 320 F.2d 950, 955 (CCPA 1962). FIG. 1 as amended on February 18, 2003

⁴ The ordinary meaning of the term “insert” is “put or introduce into the body of something.” Merriam-Webster’s Collegiate Dictionary p. 647 (11th ed. 2003), copy attached as Exhibit A.

shows that the opening 106 is formed in the clamping area 102. The opening 106 is formed in part by the interior thread 8 and the slits 7. As shown in FIG. 1, the screw 11 has the exterior thread 12 on one end. The screw 11 moves downwardly. The screw 11 is turned into the hollow pick-up shaft 2 until the screw's radially extending surface 14 is supported at a shoulder having a radially extending surface 15 of the pick-up shaft 2. At this time, the exterior thread 12 of the screw 11 reaches the end of the pick-up shaft 2. Accordingly, the exterior thread 12 of the screw 11 is inserted into the opening 106 formed by the clamping device. FIG. 1 as originally filed clearly supports the added description.

Based on the original text and the drawing of U.S. Patent No. 5,981,940, Appellants' Amendment of February 18, 2003 does not contain new matter. In particular, the insertion, "As shown in Fig. 1, the exterior thread 12 is inserted into an opening 106 that is formed, at least in part by the clamping element 104" does not contain new matter. The insertion includes the terms, "insert" and "exterior thread 12" of the screw 11.

The ordinary meaning of the term "screw" is "a nail-shaped or rod-shaped piece with a spiral groove and a slotted or recessed head designed to be inserted into material by rotating and used for fastening pieces of solid material together (emphasis added)." *See* Merriam-Webster's Collegiate Dictionary p. 1116 (11th ed. 2003), copy attached as Exhibit B. The ordinary meaning of the term "insert" is "put or introduce into the body of something" (Exhibit A). As mentioned previously, since the contested insertion properly reflects the operation of the screw 11 when the ordinary meanings of "screw" and "insert" are applied, the insertion is not new matter.

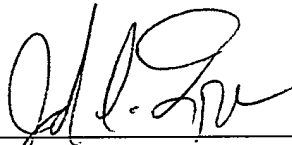
Further, the original disclosure uses the terms, "insert" and "screw," consistent with their

ordinary meanings. The terms, “insert” and “screw” are used together in Appellants’ specification to describe that the screw is turned and inserted into the shaft. In describing the prior art (U.S. Patent No. 4,652,748), Appellants’ original disclosure states that “[t]he pin is axially displaceable by a screw inserted into the other end of the shaft so that the slitted end of the shaft is spread open (emphasis added).” *See* column 1, lines 20-22. Although the terms are used to describe the prior art, it clearly indicates that Appellants described the insertion movement of a screw as of the filing of the U.S. Patent No. 5,981,940 in an ordinary way. The terms, “screw” and “insert” in Appellants’ Amendment are used in its accepted and ordinary way and Appellants’ Amendment is supported by the original description.

Based on the foregoing, since the added description to the specification is supported by the original specification and FIG. 1 of U.S. Patent No. 5,981,940, it is no new matter and so the objection under 35 U.S.C. § 132 is improper and should be withdrawn.

In summary, Appellants respectively submit that claims 19 and 25-29 are improperly rejected under 35 U.S.C. § 112, first paragraph, because their language is supported by the specification as originally filed and Appellants possessed the invention as claimed. In addition, claims 19 and 25-29 do not introduce any new matter and the rejections under 35 U.S.C. § 251 are improper. Appellants further submit that the amendment to the specification is improperly objected to under 35 U.S.C. § 132, because the original specification and the drawing support the amendment. Consequently, Appellants respectfully submit that the objections and the rejections should be withdrawn and that claims 1-38 should be allowed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. C. Freeman', is written over a horizontal line.

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Dated: February 17, 2004

IX. APPENDIX

1. An angle measuring system having a coding disk for measuring the angular position of a pick-up shaft and a clamping device for clamping the pick-up shaft, fixed against relative rotation, to a driveshaft of a drive unit, wherein the pick-up shaft has axial slits in the clamping area which can be radially spread open by an actuating element, the system comprising:

a screw being the actuating element which can be turned in the pick-up shaft and which has an exterior thread in the clamping area; and,

a corresponding interior thread on the pick-up shaft in the clamping area, wherein the screw has an axially acting detent surface which it is supported against an axial detent of the pick-up shaft during clamping.

2. The angle measuring system according to claim 1 wherein the screw is guided through the pick-up shaft from [the] an end opposite the driveshaft, and [the] an end of the pick-up shaft facing the driveshaft has the slits.

3. The angle measuring system according to claim 1 wherein the pick-up shaft is rotatably seated in a stator of the angle measuring system, and the stator is connected with [the] a stationary element of the drive unit by a coupling in a manner fixed against relative torsion, but radially and axially resilient.

4. The angle measuring system according to claim 3 wherein the coupling is made of spring sheet metal with spring arms extending axially and parallel with each other and constitute a parallel guide which is fixed against relative torsion.

5. The angle measuring system of claim 1, wherein said actuating element is a unitary member.

6. The angle measuring system of claim 1, wherein said actuating element moves in a helical manner when operative.

7. An angle measuring system comprising a coding disk for measuring the angular position of a pick-up shaft and a clamping device for clamping the pick-up shaft, fixed against relative rotation, to a driveshaft of a drive unit, and a clamping element comprising a slit in a clamping area, the system comprising:

an actuating element that directly contacts said pick-up shaft and is operative to directly spread said slit when rotated within said pick-up shaft.

8. The angle measuring system of claim 7, wherein said actuating element comprises a screw that is turned in said pick-up shaft.

9. The angle measuring system of claim 8, wherein said screw comprises an exterior

thread in said clamping area.

10. The angle measuring system of claim 9, wherein said pick-up shaft comprises an interior thread that corresponds to said exterior thread.

11. The angle measuring system of claim 8, wherein said screw comprises an axially acting detent surface that is supported against an axial detent of said pick-up shaft during clamping.

12. The angle measuring system of claim 8, wherein said screw is guided through said pick-up shaft from an end opposite said driveshaft, and an end of said pick-up shaft facing said driveshaft has said slit.

13. The angle measuring system of claim 7, wherein said pick-up shaft is rotatably seated in a stator of said angle measuring system, and said stator is connected with a stationary element of said drive unit by a coupling in a manner fixed against relative torsion, but radially and axially resilient.

14. The angle measuring system of claim 13, wherein said coupling is made of spring sheet metal.

15. The angle measuring system of claim 13, wherein said coupling comprises spring arms extending axially and parallel with each other and comprise a parallel guide which is fixed against relative torsion.

16. The angle measuring system of claim 14, wherein said coupling comprises spring arms extending axially and parallel with each other and comprise a parallel guide which is fixed against relative torsion.

17. The angle measuring system of claim 7, wherein said actuating element is a unitary member.

18. The angle measuring system of claim 7, wherein said actuating element moves in a helical manner when operative.

19. An angle measuring system comprising a coding disk for measuring the angular position of a pick-up shaft, the system comprising:

an actuating element;

a clamping element comprising a slit adjacent to said actuating element, said clamping element defining, at least in part, an opening in which said actuating element is inserted, wherein movement of said actuating element with respect to said slit causes said slit to radially spread open so that said pick-up shaft and a drive shaft engage one another so as to be fixed against

relative rotation.

20. The angle measuring system of claim 19, wherein said actuating element comprises a screw that is turned in said pick-up shaft.

21. The angle measuring system of claim 20, wherein said screw comprises an exterior thread in said clamping area.

22. The angle measuring system of claim 21, wherein said pick-up shaft comprises an interior thread that corresponds to said exterior thread.

23. The angle measuring system of claim 20, wherein said screw comprises an axially acting detent surface that is supported against an axial detent of said pick-up shaft during clamping.

24. The angle measuring system of claim 20, wherein said screw is guided through said pick-up shaft from an end opposite said driveshaft, and an end of said pick-up shaft facing said driveshaft has said slit.

25. The angle measuring system of claim 19, wherein said pick-up shaft is rotatably seated in a stator of said angle measuring system, and said stator is connected with a stationary

element of said drive unit by a coupling in a manner fixed against relative torsion, but radially and axially resilient.

26. The angle measuring system of claim 25, wherein said coupling is made of spring sheet metal.

27. The angle measuring system of claim 25, wherein said coupling comprises spring arms extending axially and parallel with each other and comprise a parallel guide which is fixed against relative torsion.

28. The angle measuring system of claim 26, wherein said coupling comprises spring arms extending axially and parallel with each other and comprise a parallel guide which is fixed against relative torsion.

29. The angle measuring system of claim 19, wherein said actuating element is a unitary member.

30. The angle measuring system of claim 19, wherein said actuating element moves in a helical manner when operative.

31. An angle measuring system comprising a coding disk for measuring the angular

position of a pick-up shaft and a clamping device fixed against relative rotation relative to a drive shaft of a drive unit, wherein said clamping device comprising an axial slit in a clamping area that is radially spread open by an actuating element, the system comprising:

a screw comprising an exterior thread in said clamping area, wherein when said screw is turned said axial slit radially spreads open; and

said clamping device comprises an interior thread in said clamping area that corresponds to said exterior thread.

32. The angle measuring system of claim 31, wherein said screw comprises an axially acting detent surface that is supported against an axial detent during clamping.

33. The angle measuring system of claim 31, wherein said screw is guided through said pick-up shaft from an end opposite said driveshaft, and an end of said pick-up shaft facing said driveshaft has said slit.

34. The angle measuring system of claim 31, wherein said pick-up shaft is rotatably seated in a stator of said angle measuring system, and said stator is connected with a stationary element of said drive unit by a coupling in a manner fixed against relative torsion, but radially and axially resilient.

35. The angle measuring system of claim 34, wherein said coupling is made of spring

sheet metal.

36. The angle measuring system of claim 34, wherein said coupling comprises spring arms extending axially and parallel with each other and comprise a parallel guide which is fixed against relative torsion.

37. The angle measuring system of claim 35, wherein said coupling comprises spring arms extending axially and parallel with each other and comprise a parallel guide which is fixed against relative torsion.

38. The angle measuring system of claim 31, wherein said actuating element moves in a helical manner when operative.

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into different groups **c**: a piece of apparatus designed to prevent agencies in one part from affecting other parts (an optical ~) (an electric ~) **d**: a frame holding a usu. metallic netting used esp. in a window or door to exclude pests (as insects) **4 a**: a flat surface on which a picture or series of pictures is projected or reflected **b**: the surface on which the image appears in an electronic display (as in a television set, radar receiver, or computer terminal); also: the information displayed on a computer screen at one time **5**: a glass plate ruled with crossing opaque lines through which an image is photographed in making a halftone **6**: the motion-picture medium or industry

2 screen *v* (15c) **1**: to guard from injury or danger **2 a**: to give shelter or protection to with or as if with a screen **b**: to separate with or as if with a screen; also: to shield (an opponent) from a play or from view of a play **3 a**: to pass (as coal, gravel, or ashes) through a screen to separate the fine part from the coarse; also: to remove by a screen **b** (1): to examine usu. methodically in order to make a separation into different groups (2): to select or eliminate by a screening process (3): to test or examine for the presence of something (as a disease) (patients were ~ed for hepatitis) **4**: to provide with a screen to keep out pests (as insects) **5 a** (1): to present (as a motion picture) for viewing on a screen (2): to view the presentation of (as a motion picture) **b**: to present in a motion picture ~ *vi* **1**: to appear on a motion-picture screen **2**: to provide a screen in a game or sport *syn* see **HIDE** — **screen-able** *adj* (1966) — **screen-er** *n*

screen-ful *n* (1966) **1**: the amount of information visible at one time on a display screen

screen-ing *n* (1725) **1**: the act or process of one that screens **2 pl** but *sing* or *pl* in *constr*: material (as waste or fine coal) separated out by means of a screen **3**: metal or plastic mesh (as for window screens) **4**: a showing of a motion picture

screen-land *n* (1925) **1**: FILMDOM

screen memory *n* (1923): a recollection of early childhood that may be falsely recalled or magnified in importance and that masks another memory of deep emotional significance

screen pass *n* (ca. 1949): a forward pass in football to a receiver at or behind the line of scrimmage who is protected by a screen of blockers

screen-play *n* (1916): the script and often shooting directions of a story prepared for motion-picture production

screen saver *n* (1982): a computer program that usu. displays various images on the screen of a computer that is on but not in use

screen test *n* (1927): a short film sequence for assessing the ability or suitability of a person for a motion-picture role — **screen-test** *v*

screen-writer *n* (1921): a writer of screenplays

1 screw *n* (ME *scruwe*, fr. MF *escroie* female screw, nut, fr. ML *scrofa*, fr. L. *sow*) (15c) **1 a**: a simple machine of the inclined plane type consisting of a spirally grooved solid cylinder and a correspondingly grooved hollow cylinder into which it fits **b**: a nail-shaped or rod-shaped piece with a spiral groove and a slotted or recessed head designed to be inserted into material by rotating (as with a screwdriver) and used for fastening pieces of solid material together **2 a**: a screw-like form: SPIRAL **b**: a turn of a screw; also: a twist like the turn of a screw **c**: a screwlike device (as a corkscrew) **3**: a worn-out horse **4 chiefly Brit**: a small packet (as of tobacco) **5**: a prison guard **6**: a person who bargains shrewdly; also: SKINFINT **7**: a propeller esp. of a ship **8 a**: THUMBSREW **1 b**: pressure or punitive measures intended to coerce — used chiefly in the phrase *put the screws on* or *put the screws to* **9 a** usu. *vulgar*: an act of sexual intercourse *usu vulgar*: a partner in sexual intercourse — **screw-like** *adj* — **have a screw loose**: to be mentally unbalanced

2 screw *v* (1605) **1 a** (1): to attach, fasten, or close by means of a screw (2): to unite or separate by means of a screw or a twisting motion (~ the two pieces together) (3): to press tightly in a device (as a vise) operated by a screw (4): to operate, tighten, or adjust by means of a screw (5): to torture by means of a thumbscrew **b**: to cause to rotate spirally about an axis **2 a** (1): to twist into strained configurations: CONTORT (~ed up his face) (2): SQUINT (3): CRUMPLE **b**: to furnish with a spiral groove or ridge: THREAD **3**: to increase the intensity, quantity, or capability of (trying to ~ up courage to confess — Will Scott) **4 a** (1): to mistreat or exploit through extortion, trickery, or unfair actions; esp.: to deprive of or cheat out of something due or expected (~ed out of a job) (2): to treat so as to bring about injury or loss (as to a person's reputation) (use the available Federal machinery to ~ our political enemies — J. W. Dean III) — often used as a generalized curse (~ you!) **b**: to extract by pressure or threat **5 usu vulgar**: to copulate with ~ *vi* **1**: to rotate like or as a screw **2**: to turn or move with a twisting or writhing motion **3 usu vulgar**: COPULATE — **screw-er** *n*

screw around *vi* (1939) **1**: to waste time with unproductive activity: DALLY **2**: to have sexual relations with someone outside of a marriage or steady relationship: be sexually promiscuous

1 screw-ball *n* (1926) **1**: a baseball pitch that spins and breaks in the opposite direction to a curve **2**: a whimsical, eccentric, or crazy person: ZANY

2 screwball *adj* (ca. 1936): crazily eccentric or whimsical: ZANY

screw-bean *n* (1866) **1**: a leguminous shrub or small tree (*Prosopis pubescens*) of the southwestern U.S. and northern Mexico having spirally twisted pods with sweet pulp — called also *screwbean mesquite* **2**: the pod of the screwbean

screw-driver *n* (1779) **1**: a tool for turning screws **2**: vodka and orange juice served with ice

screw eye *n* (1873): a wood screw with a head in the form of a loop

screw jack *n* (1719): a screw-operated jack for lifting, exerting pressure, or adjusting position (as of a machine part)

screw pine *n* (1836): any of a genus (*Pandanus*) of the family Pandanaceae, the screw-pine family) of tropical monocotyledonous Old World trees or shrubs with slender palmlike stems, often huge prop roots, and terminal crowns of swordlike leaves

screw propeller *n* (1839): PROPELLER

screw thread *n* (ca. 1812) **1**: the projecting helical rib of a screw **2**: one complete turn of a screw thread

screw-up *n* (ca. 1960) **1**: one who screws up **2**: BOTCH, BLUNDER

screw up *v* (1680) **1**: to tighten, fasten, or lock by or as if by a screw

2 a: BUNGE, BOTCH **b**: to cause to act or function in a crazy fused way: CONFOUND, DISTURB ~ *vi*: to botch an activity or taking

screw-worm *n* (1879) **1**: a blowfly (*Cochliomyia vicina*) of the warmer parts of America whose larva develops on wounds or in the nostrils of mammals including humans w or sometimes fatal results; esp.: its larva **2**: any of several other than the screwworm and esp. its larvae which parasitize flesh of mammals

screwy *adj* (1887) **1**: crazily abnormal; also: CRAZY, INSANE — **screw-i-ness** *n*

scrib-al *adj* (1857): of, relating to, or due to a scribe

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